



**SUPPLY CHAIN**  
Resilience Hub

**WWMG**  
THE UNIVERSITY OF WARWICK



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The asterisk is a stylized eight-pointed star symbol.

# Net Zero Methodology

[warwick.ac.uk/wmg](http://warwick.ac.uk/wmg)



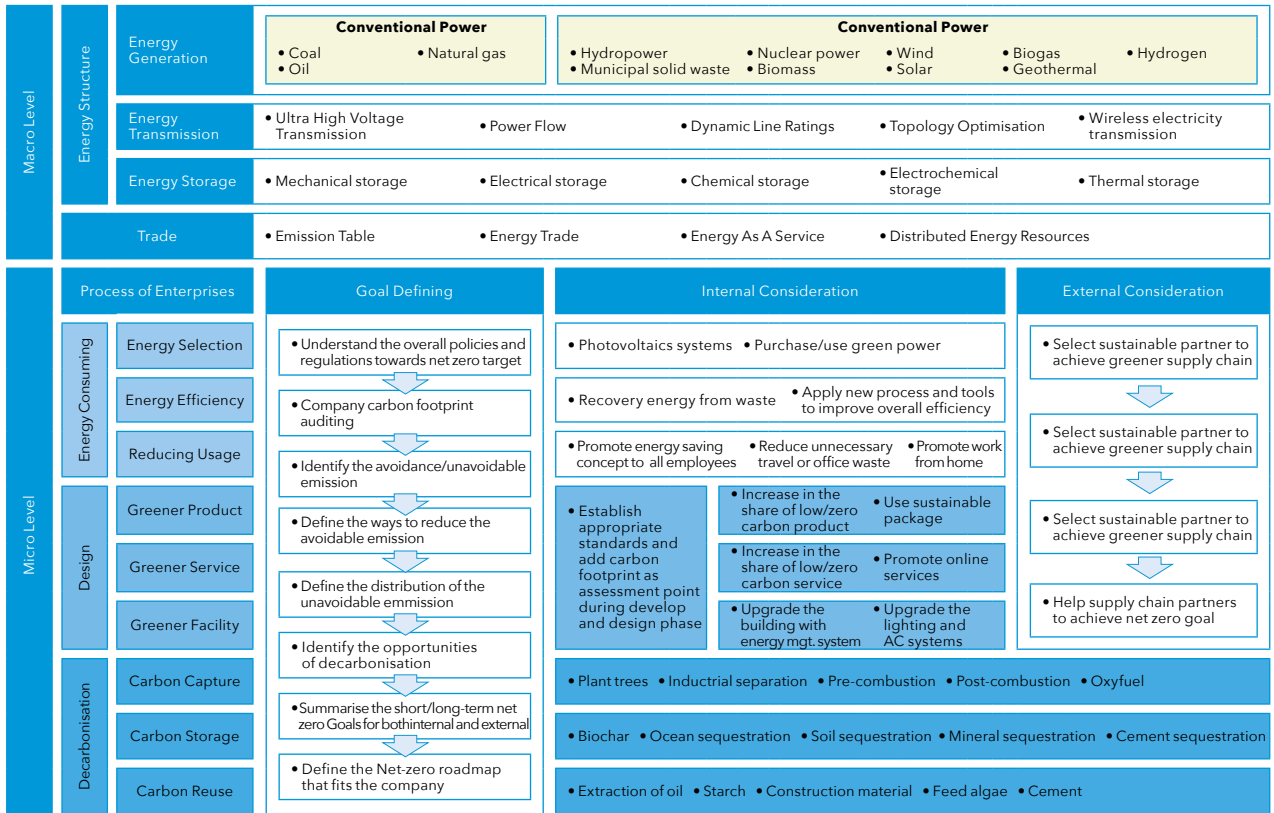
# Introduction

The topic of climate change has become one of humanity's most critical problems today. Like many other nations, the UK is making aggressive efforts to solve this issue. The Net Zero (NZ) method is one of the most significant solutions currently being studied. The NZ approach aims to reduce greenhouse gas emissions to zero by 2050, and it has been recognised as a critical pathway towards mitigating climate change.

The UK government has made significant progress towards reducing its carbon emissions in recent years. The country has already reduced its emissions by 44% from 1990 levels, exceeding the target of a 34% reduction set for 2020. However, to achieve the NZ target, all businesses in the UK will need to make even more significant reductions. The NZ approach will require a radical shift in how the country produces, transfers, and uses energy. From the micro level, the NZ approach will also require businesses to reduce their carbon footprint internally and externally proactively.

The methodology aims to help companies and regions achieve the NZ target by providing individual practitioners and policymakers with potential best practices from different perspectives collected from the literature.

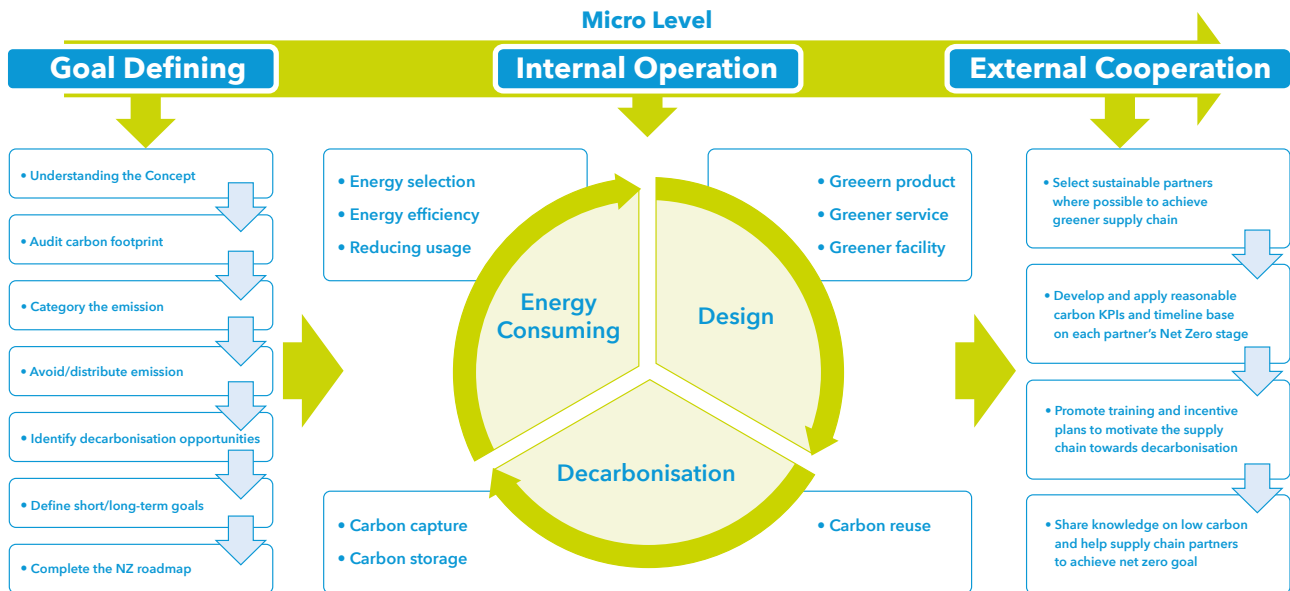
# Overall Framework



# Net Zero Methodology

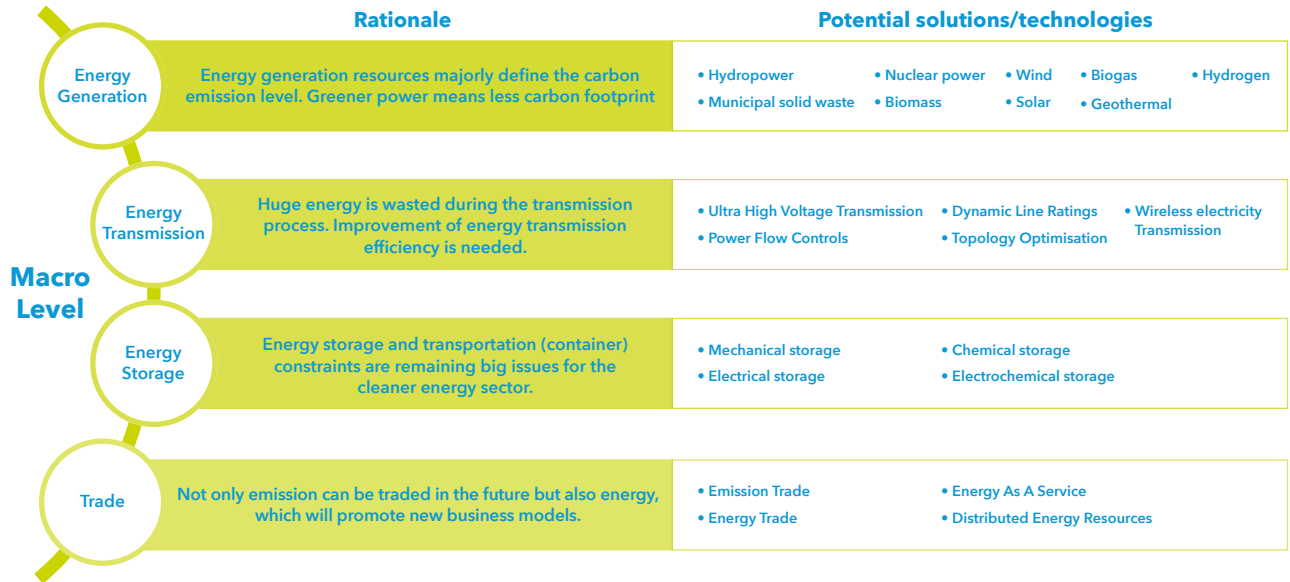
As the NZ methodology aims to guide business and society, it is separated into two parts: Micro Level and Macro Level.

## Micro Level:



- ▶ The micro-level NZ methodology begins with goal definition. To begin planning actions, businesses must have a thorough comprehension of the topic and a quantification of their current state. Setting specific and measurable goals for reducing emissions and achieving NZ status in the short-, medium-, and long-term can help businesses monitor their performance and even compare themselves to other businesses.
- ▶ The internal NZ operation strategy can be broken down into energy consumption, design, and decarbonisation. Companies should carefully select the energy they consume and look for ways to reduce their consumption. Better-designed products, services, and buildings can significantly increase energy efficiency from a design perspective. Multiple mature technologies can assist businesses in capturing, storing, and reusing carbon emissions generated during operation processes.
- ▶ Scope three emissions consist of all emissions occurring upstream and downstream of an organisation's operations. Consequently, external cooperation is also required to reach NZ. Because scope three emissions are indirect and occur throughout the entire value chain, measuring and controlling them is frequently more difficult. Therefore, greater supply chain transparency is required. Knowledge exchange, key performance indicators (KPIs), and even incentive plans can help the company better manage its scope three emissions.

## Macro Level:



- ▶ **Energy generation:** Macro-level energy generation involves producing energy on a large scale, often through power plants, wind turbines, or solar farms. It is important because it enables the transition to low-carbon energy sources and helps to reduce greenhouse gas emissions. Increasing the share of renewable energy sources in the energy mix is essential to achieve a NZ approach.
- ▶ **Energy transmission:** Once energy is generated, it needs to be transmitted from the source to the end user. High-efficiency energy transmission networks can potentially save 5%-6% of energy, but also require heavy investment to upgrade the grid.
- ▶ **Energy storage:** Energy storage technologies, such as batteries and pumped hydro storage, are important for balancing the supply and demand of energy. They enable the integration of intermittent renewable energy sources, such as wind and solar, into the energy system and help to ensure a reliable and resilient energy supply.
- ▶ **Carbon trade:** Carbon trade involves the buying and selling of carbon credits, which represent a reduction in greenhouse gas emissions. It is a market-based mechanism for reducing emissions and incentivising companies and organisations to invest in low-carbon solutions. Carbon trade can help to accelerate the transition to a NZ approach by creating economic incentives to reduce emissions.



## Getting in touch:

To find out further information on how the methodology can help you, get in touch with our team at:

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We are sharing and shaping the newest ideas to help tackle some of the world's biggest problems.

By transforming theory into practice, and forging deep partnerships with purpose-driven organisations, our academics are pushing forward innovations that are changing business - and the world - for the better.

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The Supply Chain Resilience Hub is part of WMG at the University of Warwick and supported by the WMG Centre High Value Manufacturing Catapult.

An academic department of the University of Warwick, WMG is a world leading research and education group.

WMG has internationally recognised facilities and expertise in supply chain operations and organisational transformation. Our supply chains research group applies customer responsive supply chain theory into practical solutions that generate both economic and societal value.

Collaborating with industrial partners, we seek to resolve complex business and organisational problems across agrochemicals, automotive, defence, consumer-packaged goods, retail and pharmaceuticals.

The information contained in this report was correct at the time of going to print.